A REVIEW OF THE HESPERIIDÆ OF THE UNITED STATES.

By Harrison G. Dyar, A.M., Ph.D.,

Washington, D. C.

I have remarked on the latest general work on the Hesperiidæ (Jour. N. Y. ent. soc., xiii, 98, 1905) and pointed out that nearly half of the United States species were omitted therefrom. Our species have, therefore, yet to be correctly placed. An attempt to do this was made in Bulletin 52, U. S. National Museum, but the result is unreliable as there was no time then for special study. Dr. Holland has placed the commoner forms in the "Butterfly Book"; but his arrangement does not agree with Mabille's entirely and he has omitted many species. Scudder's system has been adopted by all the leading students of the Hesperiidæ, Watson, Godman and Salvin, Holland, Mabille; it is time that our species were correctly arranged. I have endeavored to do that in the present article and have referred all the described forms to their modern genera. Five species that I have not seen are inferred from the descriptions only, viz., *Pamphila harpalus* Edwards, *P. cabelus* Edwards, *P. yuma* Edwards, *P. milo* Edwards and *P. chusca* Edwards. For a few others not seen I have other evidence. I am indebted to Dr. Hy. Skinner for loan of some types and for permission to look over his collection; I have also looked at some specimens in the collection of the Brooklyn Institute by the kindness of Mr. Doll and in the Strecker collection by the kindness of Mrs. E. E. Strecker. My main reliance, naturally, has been the collection of the United States National Museum, including Mr. Wm. Schaus' material on deposit there.

Family HESPERIIDÆ.

Subfamily Pyrrhopyginæ.*

Genus PYRRHOPYGA Hübner.

P. arizonæ Godman & Salvin.

Our species has been erroneously identified as *P. araxes* Hew.; but

*The definitions of the subfamilies and sections are given in Mabille's work.

it differs therefrom in the smaller size, browner tint and greater diffusion of the ocherous color below.

Subfamily HESPERIINÆ.

SECTION A.

KEY TO THE GENERA.

1. Fore wings with a costal fold..... 10.
   Fore wings without a costal fold..... 2.
2. Apex of fore wings truncate.....**Proteides.**
   Apex of fore wings not truncate..... 3.
3. Male with a tuft of hairs on hind wing above.....**Cogia.**
   Hind wing without such a tuft..... 4.
4. Palpi ascending, second joint applied to face..... 5.
   Palpi porrect..... 7.
5. Fore wings with vein 2 midway between vein 3 and base.....**Heteropia.**
   Fore wing with vein 2 arising well toward base..... 6.
6. Club of antennæ ovoid with fine point as long as the club.....**Acolastus.**
   Club gradually thickened, curved at the middle.....**Telegonus.**
7. Vein 5 of fore wings not central, near to vein 6.....**Cabares.**
   Vein 5 of fore wings central..... 8.
8. Vein 3 of fore wings over 4 times as far from base as from cross vein.
   Rhabdoides.
   Vein 3 of fore wings less than 4 times as far from base..... 9.
9. Third joint of palpi long, porrect; reflexed part of club not equal to the basal part.....**Phædinus.**
   Third joint of palpi short; reflexed part of club equal to the basal part.
   Thorybes.
10. Hind wings with a long anal prolongation.....**Eudamus.**
    Hind wings without this prolongation..... 11.
11. Lower discocellular long and strongly arcuate.....**Phocides.**
    Lower discocellular short..... 12.
12. Hind wings with a distinct anal lobe..... 13.
    Hind wings rounded..... 14.
13. Fore wings elongate, pointed.....**Epargyreus.**
    Fore wings trigonate.....**Plestia.**
14. Club insensibly enlarged with a fine point..... 15
    Club with the first part ovoid ending in a fine point.....**Nascus.**
15. Fore wings with the apex sharply and squarely pointed .....**Murgaria.**
    Fore wings with the apex more rounded..... 16.
16. Outer margin of hind wings nearly straight.....**Achlarus.**
    Outer margin of the hind wings convex, rounded.....**Cocceius.**

Genus PHOCIDES Hübner.

SYNOPSIS OF SPECIES.

1. Hind wings entire; fore wings with a red spot.....**lilea.**
   Hind wings crenulated; fore wings without a red spot..... 2.

2. Fore wings with hyaline white spots.... ....urania.
Fore wings without spots.....batabano.

P. lilea Reakirt.

The species is reported as occurring with us. I have seen a specimen from Texas in Dr. Skinner's collection. It is apparently a visitant only.

P. urania Westwood.

Reported from our southern border.

P. batabano Lefebre.

It occurs in southern Florida, the larva feeding on the mangrove.

Genus ACOLASTUS Scudder.

A. amyntas Fabricius.

It occurs in southern Florida, the larva on *Piscidia*.

Genus EUDAMUS Swainson.

SYNOPSIS OF SPECIES.

1. Fore wings with distinct quadrate whitish hyaline spots..... 2.
Fore wings with very faint or no spots..... ..... simplicius.
2. Hind wings without any white shades below..... 3.
Hind wings with distinct white shades below..... 4.
3. Wings with metallic green shades basally..... .....proteus.
Wings without any metallic green shading.. .....dorantes.
4. White shade on hind wings below, submarginal, entire..... .....alcæus.
This shade median, cut by two brown spots..... .....zilpa.
This shade a straight central fascia .....albofasciatus.

E. proteus Linnæus.

Inhabits the southern States, the larvæ on plants of the bean family.

E. dorantes Stoll.

Occurs in Texas, but is not widespread in our region.

E. simplicius Stoll.

Reported from our southern border.

E. alcæus Hewitson.

Reported from our southern border.

E. zilpa Butler.

Reported from our southern border.

E. albofasciatus Hewitson.

Occurs in Texas.

Genus PLESTIA Mabille.

P. dorus Edwards.

Occurs in Arizona.

Genus PROTEIDES Hübner

P. idas Cramer.

Reported from our southern border.

Genus EPARGYREUS Hübner.

SYNOPSIS OF SPECIES.

1. Hind wing without silver spots below.....zestos.
   Hind wing with silvery spots below..... 2.
2. Silvery spot divided; fore wing with fulvous shading at base.....exadeus.
   Silvery spot entire; fore wing without fulvous shading at base.....tityrus.

E. tityrus Fabricius.

Common throughout most of the United States, the larva on locust and other plants of the pea family.

E. exadeus Cramer.

Reported from our southern border.

E. zestos Hübner.

Occurs in southern Florida.

Genus NASCUS Watson.

N. hesus Westwood & Hewitson.

Reported from our southern border.

Genus HETEROPIA Mabille.

H. melon Godman & Salvin.

Reported from our southern border.

Genus ACHLARUS Scudder.

A. lycidas Abbot & Smith.

Occurs in the Atlantic region, the larva on certain wild plants of the pea family.

Genus RHABDOIDES Scudder.

R. cellus Boisduval & Leconte.

Occurs in Arizona.

Genus MURGARIA Watson.

M. albociliata Mabille.

The species occurs in Arizona. I have it from the Patagonia Mountains, taken by Mr. Oslar. *Eudamus coyote* Skinner from Texas is a synonym. The costal fold is present in the type, though it is much narrower than in the Arizona specimens.

Genus COGIA Butler.

SYNOPSIS OF SPECIES.

1. Large, the fringe of hind wings white.....hippalus.
   Small, the fringe not white.....outis.

C. hippalus Edwards.

Occurs in Arizona.

C. outis Skinner.

Occurs in Texas.

Genus PHÆDINUS Godman & Salvin.

SYNOPSIS OF SPECIES.

1. Hind wings with the fringe not white.....**mysie.**
   Hind wings with the fringe white..... 2.
2. Smaller, the hind wings rounded.....**caicus.**
   Larger, the hind wings elongate.....**epigena.**

P. mysie Dyar.

Occurs in Arizona.

P. caicus Herrich-Schaeffer.

Occurs in Arizona.

P. epigena Butler.

Occurs in Arizona. Dr. Skinner makes this a synonym of *epigona* H.-S., but Mabille puts *epigona* in *Rhabdoides*, whereas *epigena* falls in *Phædinus*. I use the name that I feel the more sure of.

Genus COCCEIUS Godman & Salvin.

SYNOPSIS OF SPECIES.

1. Hind wings with the fringe white.....**drusius.**
   Hind wings with the fringe not white..... **pylades.**

C. drusius Edwards.

Occurs in southern Arizona.

C. pylades Scudder.

Occurs throughout the Northern Atlantic states, Canada and the Pacific coast. I have specimens from Ft. Smith, Mackenzie, taken by Mr. Merritt Cary. Dr. Lintner described *Eudamus electra* from Canada, which I suppose must be a synonym of this species. I have not seen the type; it cannot be found in Albany, as Dr. Felt informs me.

Genus THORYBES Scudder.

SYNOPSIS OF SPECIES.

1. Under side of hind wings smooth, brown, with violet reflections..... **daunus.**
   Under side rough, squammose with irrorations..... 2.
2. Larger; spottings of fore wings smaller.....**mexicana.**
   Smaller; spottings of fore wings larger.....**æmilia**

T. daunus Cramer.

It is generally known as *bathyllus* S. & A., and inhabits the Southern States and Mississippi Valley.

T. mexicana Herrich-Schaeffer.

Occurs in Colorado and Nevada.

T. æmilia Skinner.

Occurs in the mountains of California and Oregon. I think it is not specifically distinct from *mexicana* H.-S., but only a local race of that species.

Genus TELEGONUS Hübner.

T. hahneli Staudinger.

Reported from our southern border.

Genus CABARES Godman & Salvin.

C. potrillo Lucas.

Reported from our southern border.

SECTION B.

KEY TO THE GENERA.

1. Club of the antennæ thickened at the end, which is obtuse and bare..... 2.
   Club of antennæ tapered at the end..... 5.
2. No costal fold in the male.....**Hesperopsis.**
   A costal fold present in the male..... 3.
3. A pair of long lobes covering a bare hollow at base of abdomen in male. **Scelothrix.**
   These lobes short or absent..... 4.
4. Hind tibiæ with a hair pencil .....**Heliopetes.**
   Hind tibiæ without a hair pencil.....**Pyrgus.**
5. Point of club of antennæ obtuse..... 6.
   Point of club sharp..... 11.
6. Fore wings with no costal fold.....**Chiomara.**
   Fore wings with a costal fold in the male..... 7.
7. Fore wings with a sinus at anal angle; two excavations on hind wing...**Systasea.**
   Fore wings with a small sinus; hind wings crenulate..... 8.
   Fore wings entire ..... 9.
8. Hind legs of male with a hair pencil .....**Celotes.**
   Hind legs with no hair pencil.....**Staphylus.**
9. Costal fold of the male long, over half the margin..... 10.
   Costal fold short, less than half the margin.....**Pholisora.**
10. Third joint of palpi moderate, less than twice as long as wide.....**Thanaos.**
    Third joint long, over twice as long as wide.....**Bolla.**
11. Apex of fore wing falcate .....**Eantis.**
    Fore wings not falcate..... 12.
12. No costal fold in the male.....**Grais.**
    A costal fold present in the male.. ..... 13.
13. Wings elongate; hind wings wavy.....**Timochares.**
    Wings trigonate; hind wings entire.....**Melanthes.**

Genus SCELOTHRIX Rambur.

SYNOPSIS OF SPECIES.

1. Size larger, expanse 22–28 mm..... 2.
   Size smaller, expanse 19–24 mm..... 3.
2. Hind wings with faint white spots above.....centaureæ.
   Hind wings with distinct white spots above..... .....cæspitalis.
3. Fringe of wings black spotted .. .. xanthus.
   Fringe white ....scriptura.

S. centaureæ Rambur.

Inhabits the Atlantic States, though it is rare; extends into the Northwest; I have a specimen from Ft. Providence, Mackenzie (Preeble).

S. cæspitalis Boisduval.

Inhabits the Pacific coast from British Columbia to California.

S. xanthus Edwards.

Described from southern Colorado and perhaps only a small form of *centaureæ* as Mabille suggests.

S. scriptura Boisduval.

From Arizona, New Mexico and California.

Genus HELIOPETES Billberg.

SYNOPSIS OF SPECIES.

1. Fore wings white with black apical shading ..... 2.
   Fore wings with outer black checkered border..... 3.
2. Under side of hind wings with two brown patches at right angles.....laviana.
   With these patches subparallel .....macaira.
3. Fore wings spotted with white on the median area..... 5.
   Fore wings with the median area more or less broadly white..... 4.
4. Black submarginal band of hind wings obsolete or dentate.....ericetorum.
   Black submarginal band broad, nearly straight ....domicella.
5. Hind wings with distinct markings below..... .....syrichtus.
   Hind wings with the marks nearly obsolete, white..... .....philetas.

H. laviana Hewitson.

Reported from our southern border.

H. macaira Reakirt.

Reported from our southern border.

H. ericetorum Boisduval.

Occurs in California, both in the plains and mountains.

H. domicella Erichson.

Reported from our southern border.

H. syrichtus Fabricius.

Reported from our southern border. Mabille includes this species

in the genus *Hesperia*, section *Pyrgus*, although it directly contradicts his diagnosis. We have no species of *Hesperia* in America; all our species have the costal fold in the male. *Syrichtus* falls in *Heliopetes* on the presence of the hair pencil on the hind tibiæ.

H. philetas Edwards.

Described from one female from western Texas. From this type the generic position cannot be ascertained; but Dr. Barnes has given me a male fron Huachuca Mts., Arizona, which he has identified as *philetas*. It resembles *syrichtus* above and has the hair pencil; below the hind wings are nearly entirely white.

Genus PYRGUS Hübner.

P. montivaga Reakirt.

Occurs throughout the United States. We have been listing two species, *montivaga* Reak. and *tessellata* Scudd., but Mabille unites them, following Godman and Salvin.

Genus HESPEROPSIS, new.

Much as in *Hesperia* Fab., but the palpi long, with long, distinct, porrect, terminal joint. No costal fold in the male; no hair pencil on hind tibiæ; two pairs of spurs. Club of antennæ ovoid, gently curved, the tip blunt and bare. Wings broad with entire margins.

Type. — *Pholisora alphæus* Edwards.

SYNOPSIS OF SPECIES.

1. Fore wings blackish with white spots..... 2.
   Fore wings gray irrorate, black dashes in subterminal space.....**alphæus.**
2. Under side of hind wings with many white spots.....**libya.**
   Under side of hind wings with a single discal bar.....**lena.**

H. libya Scudder.

Occurs in southern California and Arizona.

H. lena Edwards.

The types were from Montana. This may be a variety of *libya* as I learn from consulting with Dr. Skinner. I have not seen any certainly determined specimens.

H. alphæus Edwards.

Occurs in Arizona. Mabille places these species in *Pholisora* without comment, although they contradict his diagnosis in the absence of the costal fold and the shape of the club of the antennæ. Godman and Salvin also leave *alphæus* in *Pholisora;* but they express

doubt and mention the different shape of the club. I have thought it advisable to erect a new genus.

Genus CHIOMARA Godman & Salvin.

Synopsis of Species.

1. Hind wings with white spots on the disk ..... asychis.
   Wings without any white except on the fringe ..... gesta.

C. asychis Cramer.

Reported from our southern border. The species looks like a *Heliopetes*.

C. gesta Herrich-Schaeffer.

Occurs in Texas. *Nisoniades llano* Dodge is a synonym of it as I learn from examining the type which Mr. Dodge has kindly sent to me.

Genus EANTIS Boisduval.

E. thraso Hübner.

Occurs in Texas on our southern border.

Genus GRAIS Godman & Salvin.

G. stigmaticus Mabille.

Reported from our southern border.

Genus TIMOCHARES Godman & Salvin.

T. ruptifasciatus Plotz.

Reported from our southern border.

Genus SYSTASEA Butler.

S. pulverulenta Felder.

Occurs in Texas. Dr. Skinner makes *zampa* Edw. a synonym and I follow him, although Mabille keeps these names separate.

Genus BOLLA Mabille.

Synopsis of Species.

1. Head and palpi above golden yellow ..... ceos.
   Head and palpi above fuscous ..... brennus.

B. ceos Edwards.

Occurs in southern Arizona.

B. brennus Godman & Salvin.

Reported from our southern border.

Genus CELOTES Godman & Salvin.

C. nessus Edwards.

Occurs in Texas and Arizona.

Genus PHOLISORA Scudder.

P. catullus Fabricius.

P. mejicanus Reakirt.

I am unable to distinguish these forms except by the locality. Specimens from Arizona, New Mexico, southern California and Mexico I have referred to the latter; those from the rest of the United States to the former. Godman and Salvin give genitalic differences, which I have not looked for.

Genus MELANTHUS Mabille.

M. brunnea Herrich-Schaeffer.

Occurs on the Florida Keys. Mabille places *Melanthus* in the section of the table that has the point of the antennal club obtuse, but it appears to me to be sharp and I have placed it accordingly. Dr. Skinner is responsible for the determination.

Genus THANAOS Boisduval.

SYNOPSIS OF SPECIES.

1. Fore wings with rows of black-edged spots without hyaline centers ..... 2.
   Fore wings with some of the spots white-hyaline centered ..... 5.
2. Male darkly blackish, the spots not contrasting ..... **somnus.**
   Male less dark, the spots more relieved ..... 3.
3. Larger species ..... **brizo.**
   Smaller species ..... 4.
4. Bands normal, the outer one well beyond the cell ..... **icelus.**
   Bands abnormal, the outer one composed of clavate rays ..... **ausonius.**
5. Fringe of fore wings dark ..... 6.
   Fringe of fore wings white ..... 15.
6. Smaller species, the white dots mostly punctiform ..... 7.
   Larger species, some of the white dots of large size ..... 13.
7. Markings strongly contrasted ..... **martialis.**
   Markings not well contrasted ..... 8.
8. A discolorous brownish patch over end of cell ..... **nævius, terentius.**
   This patch not distinct, or absent ..... 9.
9. Male very dark with marks nearly obscured ..... 10.
   Male less dark with the markings more contrasted ..... 11.
10. Wings brownish tinted, markings legible, though obscure ..... **persius.**
    Wings densely black, the markings nearly completely lost ..... **pernigra.**
11. Fore wings hoary gray powdered ..... **afranius.**
    Fore wings not gray powdered ..... 12.
12. Smaller species ..... **lucilius.**
    Larger species ..... **lilius.**
13. Fore wings hoary gray powdered ..... **propertius.**
    Fore wings not gray powdered ..... 14.

14. Two whitish subapical spots on hind wings below.....juvenalis.
Without these spots.....petronius, horatius.
15. Fore wings elongate, with brown discolorous patch at end of cell.....funeralis.
Fore wings less elongate, without a patch at end of cell..... 16.
16. Smaller species with distinct markings.....pacuvius.
Larger species with indistinct markings..... 17.
17. Hind wings below with white spots within the fringe.....clitus.
Hind wings below without these spots.....tristis, tatius.

T. somnus Lintner.

Occurs in Florida. It is, perhaps, but a dark form of *brizo;* the male genitalia are the same.

T. brizo Boisduval & Leconte.

Occurs in the northern Atlantic and Pacific states, Washington to Athabasca. *T. callidus* Grinnell, from southern California, I was unable to formulate from the description; but Mr. Grinnell has most kindly sent me the male type, which I find to be a rather small narrowly marked *brizo* with dark ground color.

T. icelus Lintner.

Occurs in the Atlantic States.

T. ausonius Lintner.

Described from Albany, New York and never since found. It is presumably an aberration.

T. martialis Scudder.

Occurs in the Atlantic states.

T. terentius Scudder & Burgess

Occurs in the southern Atlantic states. I cannot differentiate Lintner's *nævius* of Florida from this.

T. persius Scudder.

Occurs in the Atlantic states.

T. pernigra Grinnell.

Mr. Grinnell has obligingly loaned me the unique type. The species represents the eastern *persius* in California, but is separable therefrom by the very dark coloration.

T. lucilius Lintner.

Occurs in the Atlantic states.

T. afranius Lintner.

Occurs in the Rocky Mountains, Montana to Nevada.

T. lilius Dyar.

Occurs in the Pacific states, Washington, British Columbia, Cali-

fornia. I imagine this will prove synonymous with *tibullus* Scudd. & Burg., which I do not otherwise know. The genitalia of *lilius* are much like the figure of those of *tibullus*. In the *lilius* examined the middle lobe of the left side piece is smooth without spines; otherwise I see no essential difference.

T. propertius Lintner.

Occurs in the Pacific states. Specimens from Colorado formerly identified as *propertius* I now consider to be large examples of *afranius*. Their genitalia differ from the *propertius* of California, which proves there are two species although they are so similar.

T. juvenalis Fabricius.

Occurs in the Eastern states.

T. horatius Scudder & Burgess.

Occurs in the southern Atlantic states. I am unable to differentiate Lintner's *petronius* from Florida from this species except by the more contrasted coloration and larger spots. I do not think that they are the same, but rather that *petronius* will prove to be *juvenalis* without the white spots on the hind wings below. This character is not improbably evanescent, and is the only one I know of to separate *petronius* and *juvenalis*. *T. plautus* Scudd. & Burg., hitherto unidentified, is not improbably another synonym of *juvenalis*. The figure of the genitalia does not appear specifically different, supposing the pieces to be in a different position. The right clasp may be broken and its basal lobe somewhat uncurved. Considerable allowance has to be made in the appearance of the figures of these organs, but there is really no great variation, though their complex appearance makes them difficult to interpret at first.

T. funeralis Scudder & Burgess.

Occurs in the western states, Texas, Arizona, California.

T. pacuvius Lintner.

From Colorado and Arizona.

T. clitus Edwards.

From Arizona and Mexico. This seems the same as *albomarginatus* of Godman & Salvin.

T. tristis Boisduval.

Occurs in the western states, Southern California, Arizona, Mexico. I cannot differentiate Edwards' *tatius* from this.

The following table separates the species of *Thanaos* by the male genitalia for those species that have been examined:

1. Right side piece with an outward projection at right angles; both tips spinose.. 2.
   Right side piece without any outward projection, the lobe basal or subbasal and more or less parallel to the body of the clasp ..... 3.
2. Middle projection of left side piece longer than wide and basally curved, approximated to the clasp..... **brizo, somnus.**
   This projection wider than long, short, truncate..... **icelus.**
3. Left side piece with no central projection; projection of right side piece unusually basal, remote, conic..... **martialis.**
   Left side piece with a central projection; projection of right piece less basal approximate..... 4.
4. Basal lobe of left side piece slender, longer than wide..... **persius, lucilius.**
   This lobe broad, square, the inner angle sometimes produced..... 5.
5. Projection of right side piece very broad and truncate..... 7.
   This part moderate, band-shaped, curved toward base..... 6.
6. Middle lobe of left side piece with spiny inner angle and short outward point. **juvenalis.**
   This lobe with a long distinct concave outer point..... **afranius.**
7. Tip of right piece long produced, finger-shaped..... 8.
   Tip of right piece shortly produced, truncate ..... 9.
8. Basal lobe of right side piece concave on the side..... **propertius.**
   This lobe convex on the side and roundedly curved down..... **tibullus, lilius.**
9. Basal lobe of right side piece well hollowed at the margin; middle point of left side piece smooth..... **horatius.**
   Basal lobe of right side piece scarcely hollowed; middle lobe of left side piece spinose ..... 10.
10. Basal lobe of right side piece slightly concave within; tips square and joined to the side piece ..... **terentius, nævius.**
    This lobe convex within with a narrow tip..... **funeralis.**
    This lobe with a double pointed tip next to the the terminal lobe..... **tristis.**

Subfamily PAMPHILINÆ.

SECTION A.

KEY TO THE GENERA.

1. Posterior tibiæ with one pair of spurs..... **Pamphila.**
   Posterior tibiæ with two pairs of spurs..... **Dalla.**

Genus PAMPHILA Fabricius.

P. palæmon Pallas.

This European species occurs throughout the North from Maine to British Columbia and the mountains of California.

Genus DALLA Mabille.

I have gathered three species from the genera *Butleria*, *Pholisora* and *Pyrgus* where they were formerly associated. Mabille has restricted *Butleria* to Chilean species and erects a new genus, *Dalla*,

in which he puts some of Godman and Salvin's species of *Butleria*, so that I presume he intends his genus to replace *Butleria* as used by them.

SYNOPSIS OF SPECIES.

1. Hind wings with spots below..... 2.
   Hind wings immaculate..... **pirus.**
2. Many small spots on hind wings below ..... **microsticta.**
   A few large spots on hind wings below..... **polingii.**

D. pirus Edwards.

Occurs in Colorada, Utah and New Mexico.

D. microsticta Godman & Salvin.

Reported from our southern border.

D. polingii Barnes.

Occurs in southern Arizona.

SECTION B.

KEY TO THE GENERA.

1. Antennæ with the point of the club absent; end obtuse..... 2.
   Antennæ with the point of the club present; end sharp ..... 6.
2. Fore wings of male with a linear stigma..... 3.
   Wings without a stigma ..... 5.
3. Stigma nearly longitudinal ..... **Copæodes.**
   Stigma oblique, normal ..... 4.
4. Fore wing with vein 2 nearer base than end of cell..... **Adopæa.**
   Fore wing with vein 2 at middle of cell..... **Chærephon.**
5. Fore wing with vein 12 short, the wing enlarged costally.. **Ancyloxypha.**
   Fore wing with vein 12 longer; wing normally shaped..... **Oarisma.**
6. Antennæ with the point of the club short, less than width of club ..... 7.
   Point of club long, equal to or greater than the width of the club ..... 12.
7. Antennæ short, equal to the width of the thorax..... **Hylephila.**
   Antennæ longer, twice the width of the thorax..... 8.
8. Vein 3 of fore wings well before the end of the cell..... **Polites.**
   Vein 3 of fore wings near the end of the cell..... 9.
9. Male stigma with modified scales below ..... 10.
   Male stigma without modified scales below..... **Ochlodes.**
10. Stigma apparently continuous ..... 11.
    Stigma divided by raised silky scales ..... **Catia.**
11. A large black patch below stigma..... **Atalopedes.**
    A small black area below stigma..... **Thymelicus.**
    An obscure, weak fulvous area below stigma ..... **Erynnis.**
12. Mid tibiæ with long distinct spines..... 13.
    Mid tibiæ not, or very feebly spined..... 24.
13. Fore wings of male with a stigma..... 14.
    Fore wings without a stigma..... 20.

14. Vein 2 at or beyond the middle of the cell..... 15.
Vein 2 arising well before the middle of the cell..... 17.
15. Male stigma thick, curved somewhat S-shaped.....Lerema.
Male stigma linear, oblique ..... 16.
Male stigma a broad illy defined patch.....Epiphyes.
16. Third joint of palpi longer, more slender.....Mastor.
Third joint of palpi moderate, thicker.....Atrytonopsis.
17. Outer margin incised above anal angle; hind wings lobed..... Thespieus.
Wings entire 18
18. Male stigma double, parallel, on the veins .....Stomyles.
Male stigma oblique, normal ..... 19.
19. Third joint of palpi long and slender.....Amblyscirtes.
Third joint of palpi short and obtuse.....Paratrytone.
20. Wings broad and ample..... 21.
Fore wings trigonate, hind wings rounded, normal..... 22.
21. Hind wings with vein 3 from the end of the cell..... Phycanassa.
Hind wings with vein 3 before the end of the cell.....Poanes.
22. Fore wings elongate; hind wings subcaudate.....Calpodes.
Wings not so much produced ..... 23.
23. Vein 3 of fore wings well before end of cell.....Atrytone.
Vein 3 of fore wings near end of cell.....Lerodea.
24. Male with a stigma..... 25.
Without a stigma..... 26.
25. Fore wings with vein 3 near end of cell; wings black.....Euphyes.
Vein 3 more remote from end of cell; wings fulvous spotted.....Limochroes.
26. Antennæ moderate, half as long as costa..... 27.
Antennæ long, reaching over half the costa.....Padraona.
27. Fore wings elongate; hind wings subcaudate.....Prenes.
Fore wings normally shaped.....Anatrytone.

Genus ADOPÆA Billberg.

SYNOPSIS OF SPECIES.

1. Hind wings below with black shades, separated by a whitish ray.....eunus.
Hind wings below nearly immaculate pale ocher yellow.....wrightii.

A. eunus Edwards.

Occurs on the Pacific coast. It was described from Mt. Hood; I have specimens from Los Angeles, California, and the Argus Mts. The latter have nearly lost the markings below.

A. wrightii Edwards.

I have examined four specimens in the Strecker collection from the Mojave Desert. It is not more than a local form of the preceding species.

Genus CHÆREPHON Godman & Salvin.

SYNOPSIS OF SPECIES.

1. Outer band on fore wings below well excurved at cell.....rhesus
This band nearly evenly arcuate.....carus.

C. rhesus Edwards.

Occurs in the mountains of Colorado and Mexico at high altitudes.

C. carus Edwards.

Occurs in the Huachuca and Catalina mountains of Arizona.

Genus COPÆODES Speyer.

C. auriantiaca Hewitson.

Not uncommon in Texas, New Mexico and Arizona. We have been calling it by the name *procris* Edw.; but that has been shown to be a synonym.

Genus ANCYLOXYPHA Felder.

SYNOPSIS OF SPECIES.

1. Fore wings suffused with blackish ..... 2.
   Fore wings fulvous with blackish outer border ..... **arene.**
2. Fore wings with bronzy reflections ..... **numitor.**
   Fore wings with bluish reflections ..... **longleyi.**

A. arene Edwards.

Occurs in southern Arizona. *C. myrtis* Edw. (Bulletin 52, U. S. Nat. Mus., no. 477) is a synonym.

A. numitor Fabricius.

Common throughout the eastern United States, flying in grass near water.

A. longleyi French.

Described from one female taken near Chicago. I doubt its distinctness from *numitor*. Mr. Longley writes me that it was taken on the prairie away from water, but he suggests that it may have emerged from some barn where it could have been carried as pupa. If so, the unusual dryness may be the cause of the aberrant coloration of the imago. No second specimen has been met with.

Genus OARISMA Scudder.

SYNOPSIS OF SPECIES.

1. Fore wings bright bronzy with dark contrasted fringes ..... **edwardsii.**
   Fore wings overspread with bronzy; smaller species ..... **garita.**
   Fore wings broadly bronzy on the costa; larger species ..... **powescheik.**

O. edwardsii Barnes.

Occurs in Arizona and Colorado. It is hardly more than a race of *garita*, and may be the *hylax* of Edwards, as Dr. Barnes points out to me.

O. garita Reakirt.

Occurs in Colorado, Dakota and Manitoba.

O. powescheik Parker.

I have it from Wisconsin and Michigan.

Genus HYLEPHILA Billberg.

H. phylæus Drury.

Common in the Southern States to southern California and Mexico.

Genus POLITES Scudder.

P. coras Cramer.

Common in the eastern United States. Both sexes vary markedly in the amount of reduction of the fulvous markings, so that extremes might be easily thought different species. It is more familar to us under the synonymical name *peckius* Kirby.

Genus ATALOPEDES Scudder.

SYNOPSIS OF SPECIES.

1. Female with a fulvous submarginal band and ray in cell of hind wings above. **campestris.**
   Female with one bifid yellow spot on hind wings above..... **mesogramma.**

A. campestris Boisduval.

Occurs throughout the United States in the more southern portions; in the Mississippi Valley as far north as Dakota.

A. mesogramma Latreille (*cunaxa* Hewitson).

Included on the authority of Mabille, who credits the species to "North America." This may refer to the West Indies or Mexico. I do not know the species.

Genus THYMELICUS Hübner.

SYNOPSIS OF SPECIES.

1. Male stigma narrow, linear, straight and small..... **baracoa.**
   Male stigma broader, thicker, somewhat sinuous, large ..... 2.
2. Stigma nearly continuous ..... 3.
   Stigma partly divided, showing an upper and lower black spot and an outward oblique black bar..... 6.
3. Hind wings below grayish straw color with faint outer row of pale spots... **alcina.**
   Hind wings below brownish with an outer row of yellow spots and one in cell. 4.
4. Spots on hind wings below larger, diffused, nearer margin ..... **mystic.**
   Spots below smaller, concrete, further from the margin..... 5.
5. Fore wings scarcely washed with fulvous beyond the stigma..... **siris.**
   Fore wings distinctly washed with fulvous beyond the stigma..... **sylvanoides.**
6. Hind wings predominantly light colored below with dark markings..... 7.
   Hind wings dark colored below, immaculate or with light markings..... 8.
7. Marginal band of fore wings of male broad, heavy..... **vibex.**
   Marginal band narrow, dentate..... **brettus.**
   Marginal band still narrower, broken opposite cell..... **chusca.**

8. Hind wings immaculate below.....**cernes.**
Hind wings with light markings below..... 9.
9. Veins of hind wings below dark, separating the spots..... 10.
Veins pale, uniting and producing the spots.....**sabuleti.**
10. Marks on hind wings below distinct.....**draco.**
Marks on hind wings below faint and clouded.....**mardon.**

T. baracoa Lucas.

It is found in Florida.

T. alcina Skinner.

From Colorado. Dr. Skinner thinks that this may be *rhena* Edw., but we have not seen the type.

T. mystic Scudder.

Occurs in the eastern United States.

T. sylvanoides Boisduval.

Occurs on the Pacific coast and mountains.

T. siris Edwards.

Occurs in the western United States, Rocky Mountains to the Pacific coast. I doubt the distinctness of this form from *sylvanoides*. Both sexes are a little darker, but I see no other difference.

T. vibex Hübner (*stigma* Skinner, not Staudinger).

Occurs on our southern border.

T. brettus Boisduval & Leconte.

Inhabits the Southern States. I think this is only a varietal form of *vibex*. The dark markings in the male are more extended in *vibex*, but they vary. I have specimens from Jalapa, Mexico, labelled *vibex* by Mr. Schaus, which are indistinguishable from Texan *brettus*. Godman and Salvin also are of my opinion (Biol. Cent. Am., Rhop., ii, 480, 1900).

T. chusca Edwards.

Described from one male from Arizona. I have not seen the species.

T. cernes Boisduval & Leconte.

Inhabits the eastern United States.

T. draco Edwards.

From the mountains in the West; southern Colorado, Idaho, Wyoming, Crater Lake, Oregon.

T. mardon Edwards.

Washington (Neumoegen collection, Brooklyn Museum).

T. sabuleti Boisduval.

From the western United States, California, Nevada, Arizona.

Genus CATIA Godman & Salvin.

C. druryi Latreille.

Better known as *otho* A. & S.; inhabits the eastern United States. It is easily recognized by the peculiar stigma of the male which is a further modification of the *Tymelicus* pattern.

Genus ERYNNIS Schrank.

SYNOPSIS OF SPECIES.

1. Hind wings below with spots united into a band forming pale rays on veins.. 2.
   These spots divided by dark veins or absent..... 4.
2. Band below white..... 3.
   Band below fulvous.....manitoboides.
3. Ground color of hind wings below uniformly dark brown.....metea.
   Ground color varied with greenish and yellow.....unkas.
   Ground color entirely greenish yellow.....lasus.
4. Hind wings with white spots below..... 5.
   Hind wings with the spots not white, yellow, pale or obsolete..... 7.
5. A linear white ray in the cell.....morrisoni.
   At most a white spot in the cell..... 6.
6. Male stigma thick, straight, partly doubled.....comma.
   Male stigma long, linear, curved.....juba.
7. Hind wings with pale spots below..... 8.
   Hind wings immaculate..... 9.
8. Fore wings with the fulvous color reduced, absent from the costal edge..attalus.
   Fore wings with the fulvous color extended, covering costal edge.....leonardus.
   Fore wings broadly fulvous, the outer margin broadly pale fuscous.
   ruricola, cabelus.
9. Stigma as usual, thick, subdivided on vein 2..... 10.
   Stigma narrowly linear, continued over vein 2..... 11.
10. Fore wings fulvous with outer fuscous edge.....pawnee, oregona.
    Fore wings largely fuscous, the fulvous reduced to spots.....meskei.
11. Fore wings with a broad dark fuscous edge.....licinus.
    Fore wings fulvous with a faint marginal cloud.....ottoe.
    Fore wings ocher yellow, immaculate.....yuma.

E. morrisonii Edwards.

I have a male from Colorado (Neumoegen, Meske collection).

E. comma Linnæus.

The species occurs throughout the northern and mountainous parts of the United States and has received many names. In Bulletin 52, U. S. Nat. Mus., eleven varieties are recognized, but I think three or four names will suffice. *Laurentina* Lyman, *colorado* Scudder = *manitoba* Scudder = *nevada* Scudder, *columbia* Scudder, *idaho* Edwards = *assiniboia* Lyman will be referred to the synonymy of *comma*. The varietes are distinguished about as follows:

Hind wings below dark brown, spots moderate.....**laurentina.**
Hind wings below gray green, spots often reduced.....**colorado.**
Hind wings below grayish green, the spots often small and tending to form a straight row; smaller than the other forms.....**columbia.**
Hind wings below light yellow or greenish.....**idaho.**

E. juba Scudder.

From Colorado, Idaho and the mountains of California. Similar to *comma* but larger, brighter fulvous with somewhat more pointed wings, the male stigma narrower and curved. The variety *viridis* Edwards has the wings more obscured with fuscous.

E. metea Scudder.

From the northern Atlantic States and Allegheny mountains.

E. unkas Edwards.

From the Rocky Mountain region, Kansas and Colorado.

E. lasus Edwards.

From southwest Arizona. The male type is in the Neumoegen collection in the Brooklyn Museum.

E. manitoboides Fletcher.

I have Dr. Fletcher's type from Nepigon. I cannot agree with Dr. Skinner that this is a form of *comma*. In the male type the pale lines on the veins below are in evidence as in *metea* and *unkas;* they are lost in the female type, which would fall in the neighborhood of *attalus* and *leonardus*, from which the coloration of the upper side separates it.

E. attalus Edwards.

From the Southern States; common in Florida.

E. leonardus Harris.

From the northern Atlantic States. This is, perhaps, only a form of the preceding.

E. pawnee Dodge.

From the western plains, Utah, Nebraska.

E. oregona Edwards.

From California and Nevada. I have not seen it. From the description it falls near *pawnee*, if it really belongs to the genus *Erynnis*. Edwards says: "Size of *colorado;* bright yellow fulvous on upper side, the subapical spots not well defined. Below grayish yellow, spots scarcely lighter (not white nor even light), the band on the hind wings slight, often maculate."

E. meskei Edwards.

From Indian River, Florida (Neumoegen collection, Brooklyn Museum).

E. licinus Edwards.

I have a single specimen from Texas which Dr. Skinner has determined.

E. cabelus Edwards.

Unknown to me. Described as near *ottoe*, but with pale spots on the hind wings below, lacking, however, in one specimen. Nevada.

E. ruricola Boisduval.

Described from California. I do not know this species. Boisduval's description as supplemented by Edwards makes the species fall near *cabelus*. Mr. Schaus, however, identifies as *ruricola* a specimen of *comma* in which the white spots are very small and nearly obsolete.

E. ottoe Edwards.

I have seen two males and two females in the Strecker collection from Utah. The marginal band is nearly obsolete, yet serves to define the pale spots.

E. yuma Edwards.

Unknown to me and perhaps in the wrong genus. From the description it must be a very distinct form. Arizona.

E. axius Plotz.

This is added by Mabille. I do not know it.

Genus OCHLODES Scudder.

SYNOPSIS OF SPECIES.

1. Large; wings brown with hyaline spots.....**snowi.**
   Smaller; wings largely marked with fulvous..... 2.
2. Stigma of male very oblique, touching vein 1 within basal third **harpalus, sassacus.**
   Stigma less oblique, touching vein 1 beyond basal third..... 3.
3. Hind wings dark below with contrasting yellow spots.....**pratincola.**
   Hind wings pale below, spots not contrasting..... 4.
   Hind wings immaculate below..... 5.
4. Smaller, dark markings of fore wings confluent.....**nemorum.**
   Larger, dark markings of fore wing separated into a border and a discal mark. **agricola, napa.**
5. Fore wings with fuscous spot at end of stigma, no translucent spots on costal margin.....**verus.**
   Fore wings without fuscous spot at end of stigma and with three translucent spots on costal margin.....**milo.**

O. snowi Edwards.

From Colorado and Arizona. This species is aberrant in this genus as there is a very distinct point to the antennal club, almost as long as the width of the club. It might find place near *Amblyscirtes*, but, as it would form a new generic type there, I leave it where Mabille puts it.

O. sassacus Harris.

From the northeastern United States.

O. harpalus Edwards.

Unknown to me. Described as near *sassacus* and, from the description, indistinguishable therefrom. Nevada.

O. pratincola Boisduval.

Inhabits the Pacific coast to British Columbia.

O. nemorum Boisduval.

From California.

O. verus Edwards.

From California; it is like *agricola* above but lacks the spots below. It is probably only a light variety of *agricola*.

O. agricola Boisduval.

From the Pacific Coast, British Columbia, Nevada.

O. napa Edwards.

From Colorado and Washington. I do not believe that this is specifically distinct from *agricola*. It is a little larger only and the markings a very little better defined. Otherwise I see no differences whatever.

O. milo Edwards.

Autoptically unknown to me and perhaps not of this genus, but described as near *agricola*. From Mt. Hood, Oregon.

Genus EPIPHYES, new.

Antennal club cylindrical, the point rather obtuse and about equal to the diameter of the club. Palpi with the third joint moderate, rather slender; wings normal, vein 2 arising at the middle of the cell, 3 before the end. Mid tibiæ spiny. Male stigma a large, ill defined blotch.

Type *Pamphila carolina* Skinner.

E. carolina Skinner.

From North Carolina.

Genus LEREMA Scudder.

L. accius Abbot & Smith.

Inhabits the Southern States. Dr. Skinner thinks that *horus* Edw. from Texas is probably a synonym.

Genus MASTOR Godman & Salvin.

SYNOPSIS OF SPECIES.

1. Head and collar golden, fringe sordid pale.....phylace.
   Head, collar and fringe golden.....bellus.

M. bellus Edwards.

From Arizona.

M. phylace Edwards.

New Mexico. I have seen two specimens in the Strecker collection.

Genus ATRYTONOPSIS Godman & Salvin.

SYNOPSIS OF SPECIES.

1. Hind wings immaculate above..... 2.
   Hind wings with fulvous or hyaline spots..... 5.
2. Larger species, fringe of hind wings white..... 3.
   Smaller species, fringe of hind wings not white.....hianna.
3. No hyaline spot at the end of the cell of fore wings.....deva.
   A hyaline spot at the end of the cell..... 4.
4. Brown, the discal spot lunate.....lunus.
   Grayer, the discal spot more erect.....vierecki.
5. Hind wings with a straight row of whitish hyaline spots.....pittacus.
   Hind wings with an irregular row of spots, accompanied by others below..... 6.
6. Spots yellow hyaline; stigma faint, straight..... python.
   Spots white hyaline; stigma bent, oblique, distinct.....cestus.

A. deva Edwards.

From Arizona.

A. lunus Edwards.

From Arizona. I have seen none but females of this species but suppose it properly referred here.

A. vierecki Skinner.

From New Mexico. I have examined the types in the collection of the Academy of Nat. Sci. at Philadelphia. The species looks like a faded *lunus*, but the color is evidently natural.

A. hianna Scudder.

Occurs in the northern Atlantic States.

A. pittacus Edwards.

From Arizona.

A. python Edwards.

From Arizona.

A. cestus Edwards.

From Arizona.

Genus THESPIEUS Godman & Salvin.

T. macareus Herrich-Schaeffer.

Reported from our southern border.

Genus STOMYLES Scudder.

SYNOPSIS OF SPECIES.

1. Hind wings below with spots joined by the pale veins.....**textor.**
   Hind wings below with pale spots on a dark ground..... ..... 2.
   Hind wings below immaculate.....**fusca.**
2. Spots of fore wings dislocated, the 4th of the row below the cell well beyond the subapical row..... 3.
   Spots of fore wing in a curved row..... 4.
3. Larger species, expanse 25 mm.....**comus.**
   Smaller species, expanse 20 mm.....**hegon.**
4. Hind wings below with base and margin grayish, middle field brown with diffuse pale spots.....**arabus.**
   Ground color of hind wings below uniform..... 5.
5. Hind wings below brown, grayish irrorate.....**celia.**
   Hind wings below brown, yellow bronzy .....**nereus.**

S. textor Hübner.

Occurs in the Southern States, North Carolina, Florida.

S. celia Skinner.

From Texas. The male stigma consists of a slight thickening along the outer section of the median vein and base of vein 2. In another specimen it extends out a little between the fork of these veins, suggesting the form shown by *æmus* and *simius*. The species therefore approaches the genus *Amblyscirtes*.

S. nereus Edwards.

I have only a single worn female from the Huachuca Mountains, Arizona, named by Dr. Barnes, so I cannot vouch for the generic position in the absence of a male.

S. hegon Scudder.

One male is before me from Texas, labelled *samoset* by Mr. Belfrage.

S. comus Edwards.

Unknown to me. I see nothing in the description to separate this from *hegon* except the larger size. From Texas.

S. arabus Edwards.

Arizona. One specimen in the Strecker collection. It much resembles the South American *odilia* Berg.

S. fusca Grote & Robinson.

From the Southern States, New York to Georgia. The male stigma is practically obsolete, though I think I see a trace of it. The species might be placed in *Lerodea*.

Genus AMBLYSCIRTES Scudder.

SYNOPSIS OF SPECIES.

1. Hind wings with small white spots below in a circle..... 2.
   Hind wings not so marked..... 3.
2. Larger species; third joint of palpi smaller.....nanno.
   Smaller species; third joint of palpi longer.....elissa.
3. Hind wings without white spots above, at most an obscure fulvous band..... 4.
   Hind wings with white spots above.....eos.
4. Wings black with white costo-apical dots..... 5.
   Wings more or less bronzy, spots fulvous or obsolete..... 7.
5. Hind wings below whitish and purple irrorate, without band..... 6.
   With an irregularly mottled dark central band.....nysa.
6. Marks below purplish, forming a distinct outer border.....vialis.
   With pale irrorations on a dark ground only.....meridionalis.
7. Marks on wings above nearly obsolete.....oslari.
   Marks on wings above forming distinct fulvous spots..... 8.
8. Band of spots broken, no spot in the interspace 5–7.....ænus.
   Band of spots continued around cell..... 9.
9. Male stigma small, nearly obsolete.....simius.
   Male stigma large, well developed.....cassus.

A. nanno Edwards.

From Arizona.

A. elissa Godman & Salvin.

Reported from our southern border.

A. vialis Edwards.

Inhabits the northern United States, New York, Pennsylvania, Washington, British Columbia.

A. meridionalis, new species.

Like *vialis* above, but the spots whiter and smaller. On under side of hind wings there is only a faint purplish irroration on a brown ground, faintly showing a discal dot and outer band in pale scales. Described from three specimens in the Strecker collection from Georgia and Florida, labelled *Amblyscirtes eos*. It may be a southern form of *vialis*. The three specimens are uniform.

A. nysa Edwards.

From Texas and Arizona.

A. eos Edwards.

From Arizona.

A. ænus Edwards.

From Colorado and Arizona.

A. oslari Skinner.

Dr. Skinner has loaned me his male type from Colorado. I have a male like it from Arizona that has stood under the label *ænus* for years. Also a pair recently received from the Huachuca Mountains, Arizona, collected August 20, 1903, by Mr. E. J. Oslar.

A. simius Edwards.

Colorado. I have examined two specimens in the Strecker collection.

A. cassus Edwards.

From Arizona.

Genus **PARATRYTONE**, new.

Antennæ with the club slender, the point bent, tapered, longer than the width of the club. Palpi with the third joint short, thick; middle tibiæ spined. Vein 2 arising before the middle of the cell; male with a narrow, straight stigma from vein 3 to vein 1, broken on vein 2.

Type. — *Pamphila howardi* Skinner.

SYNOPSIS OF SPECIES.

1. Male stigma heavy, black; dark border of fore wings faint.....**scudderi.**
   Male stigma delicate, grayish; dark border of fore wings distinct..... 2.
2. Larger; black marks heavier, spot beyond cell touching the discal arc....**howardi.**
   Smaller; black marks less defined, the spot beyond the cell not touching the discal arc.....**aaroni.**

P. scudderi Skinner.

Dr. Skinner has kindly loaned me his male and female types. He has associated the species with the *comma* group (genus *Erynnis*); but this is negatived by the long point of the antennæ which is fully as long as the width of the club. The types are from the White River, Colorado.

P. howardi Skinner.

From Florida.

P. aaroni Skinner.

From New Jersey. This will probably prove to be not specifi-

cally distinct from *howardi* when we have specimens from the other southern states.

Genus POANES Scudder.

P. massasoit Scudder.

From the Atlantic states.

Genus PHYCANASSA Scudder.

P. viator Edwards.

From the Atlantic states, common southward.

Genus CALPODES Hubner.

C. ethlius Cramer.

From Florida and Texas, the larva on *Canna*.

Genus ATRYTONE Scudder.

Synopsis of Species.

1. Fore wings of the male with the disk broadly fulvous..... 2.
   Fore wings of the male with the disk brown with fulvous spots.....melane.
2. Hind wings below brown with a large yellow patch.....hobomok.
   Hind wings below yellow with a subbasal brown band..... 3.
3. Smaller; the band below usually continuous.....zabulon.
   Larger; the band below broken into spots or obsolete.....taxiles

A. melane Edwards.

From southern California.

A. hobomok Harris.

Inhabits the Atlantic states.

A. zabulon Boisduval & Leconte.

Inhabits the Atlantic states.

A. taxiles Edwards.

Inhabits the western United States.

Genus LERODEA Scudder.

I am unable to separate the genus *Oligoria* Scudder from *Lerodea*, and I, therefore, unite them.

Synopsis of Species.

1. Hind wings with distinct white spots below..... 2.
   Hind wings without white spots below..... 3.
2. Spots in a median row only.....maculata.
   Spots in a median angled row and subbasal ones also.....loammi.
3. Hind wings below brownish with traces of outer pale band.....eufala.
   Hind wings below cinereous, longitudinally streaked.....osyka

L. loammi Whitney.

From Florida. Three specimens in the Strecker collection.

L. maculata Edwards.

From Florida.

L. eufala Edwards.

From Florida. Mabille refers his *floridæ* (Bull. 52, U. S. Nat. Mus., no. 470), as a synonym of this.

L. osyka Edwards.

From Texas and Mexico (Oxaca, L. O. Howard).

Genus EUPHYES Scudder.

SYNOPSIS OF SPECIES.

1. Fore wings of male with hyaline white spots.....**verna.**
   Fore wings of male black, immaculate.....**metacomet.**

E. verna Edwards.

From the eastern United States.

E. metacomet Harris.

From the eastern United States.

Genus LIMOCHROES Scudder.

SYNOPSIS OF SPECIES.

1. Hind wings immaculate below..... 2.
   Hind wings with pale spots below..... 6.
   Hind wings dark below, veins pale, a fulvous ray above angle.....**streckeri.**
2. Fore wings dark above, scarcely fulvous washed..... 3.
   Fore wings with distinct fulvous discal area..... 4.
3. Smaller; black border of fore wings reaching over half way to stigma.
   bimaculata.
   Larger; black border scarcely reaching half way to stigma.....**arpa.**
4. Stigma thick, heavy, scarcely divided..... 5.
   Stigma narrower, more obviously divided.....**byssus.**
5. Fore wings with the cell to costa fulvous.....**palatka.**
   Fore wings with the costa washed with fuscous.....**dion.**
6. Stigma joined to the margin by fuscous; hind wings with little or no fulvous
   manataaqua.
   Stigma separated from the marginal band by fulvous; hind wings with a fulvous patch.....7.
7. Yellow discal spot of hind wings separated from base by fuscous.....**pontiac.**
   Yellow discal spot nearly reaching base over cell.....**yehl.**

L. bimaculata Grote & Robinson.

From the Atlantic States.

L. arpa Boisduval & Leconte.
From Florida.

L. byssus Edwards.
From Florida.

L. palatka Edwards.
From Florida.

L. dion Edwards.
From the eastern United States.

L. manataaqua Scudder.
From the eastern United States.

L. pontiac Edwards.
From the eastern United States.

L. yehl Skinner.
From Tennessee.

L. streckeri Skinner.
The single type from Florida is in the Strecker collection. The antennæ are broken and both middle legs lost, so that its true generic position is open to question. I place it provisionally in *Limochroes;* it may be found referable to *Paratrytone*.

Genus PRENES Scudder.

SYNOPSIS OF SPECIES.

1. Large species, no yellow lining on the veins of hind wings below.....2.
   Smaller species with more or less distinct yellow lining.....3.
2. Hind wings immaculate below.....**ocola.**
   With a row of small bluish white spots on costal half.....**nero.**
   With an outer and basal pale band, a black spot below costal vein.....**ares.**
3. Hind wings below with two large white dashes.....**panoquin.**
   Hind wings with three little white dots between the veins.....**panoquinoides.**
   Hind wings below with obscure yellowish dots; veins distinctly lined .....**errans.**

P. ocola Edwards.
From Florida.

P. nero Fabricius.
Reported from our southern border.

P. ares Felder.
Reported from our southern border.

P. panoquin Scudder.
From the southern Atlantic States.

P. panoquinoides Skinner.

From the Florida Keys.

P. errans Skinner.

From southern California.

Genus ANATRYTONE, new.

Club of antennæ cylindrical, the tip about as long as the width of the club, rather obtusely pointed. Wings normal, vein 2 arising near the middle of the cell, 3 close to the end. No sex mark in the male. Third joint of the palpi moderate, obtuse. Mid tibiæ without spines or a very few minute ones.

Type. — *Pamphila delaware* Edwards.

Godman and Salvin place this species in *Atrytone;* but the nearly complete absence of the spines on the middle tibiæ has induced me to remove it therefrom.

SYNOPSIS OF SPECIES.

1. Fore wing of male more or less black lined on the veins.....2.
   Fore wing without black lining on the veins.....3.
2. No black patch beyond cell..... **delaware.**
   With a blackish patch beyond the cell.....**vitellius.**
3. Wings broadly black bordered.....**arogos.**
   Wings very narrowly black bordered.....**lagus.**

A. delaware Edwards.

Southern States, Nebraska.

A. vitellius Fabricius.

I do not know whether we have this species. Dr. Skinner unites it with *delaware*, but Godman & Salvin point out differences.

A. arogos Boisduval & Leconte.

From the Southern States, Florida, Kansas.

A. lagus Edwards.

From Texas.

Genus PADRAONA Moore.

P. dara Kollar.

The species has been recorded from West Virginia, Colorado and California, but it is not certain that it really occurs with us; Dr. Holland argues that the records may be erroneous (Journ. N. Y. ent. soc., vi, 57, 1898). The genus occurs in America, as Mabille records two species from South America; but it will be a unique record if an Asiastic species, not known in Europe, proves to be widely scattered over North America.

Subfamily MEGATHYMINÆ.

Genus MEGATHYMUS Scudder.

Synopsis of Species.

1. Hind wings with the outer margin yellow.....2.
   Hind wings with the outer margin black.....4.
2. A white angled patch on subcostal vein below; male without erect hairs...yuccæ.
   No such white patch below; male with long erect hairs on the hind wings.....3.
3. Males with the hairs long; females with the dislocated spots of veins 4–6 large streckeri.
   Males with the hairs shorter; females with these spots small.....cofaqui.
4. With yellow spots on the hind wings above.....5.
   Without such spots.....ursus.
5. Fore wings with submarginal fulvous band.....neumoegeni.
   Fore wings with the band cut into spots by black veins.....aryxna.

M. yuccæ Boisduval & Leconte

Southern Atlantic states, the larva in the roots of *Yucca*. Mabille thinks that *coloradensis* Riley is a distinct species, but I am unable to separate it except by the size.

M. cofaqui Strecker.

From Texas.

M. streckeri Skinner.

Texas, Colorado. Not well separated from the preceding.

M. neumoegeni Edwards.

From Arizona. Types are in the Neumoegen and Strecker collections and have extensive confluent fulvous markings. The figure in the Biologia represents a differing form which has been generally erroneously identified as *neumoegeni*.

M. aryxna, new species.

This is the form figured in the Biologia Cent.-Am. Lep. Het., III, pl. 69, figs. 3 and 4. It differs from *neumoegeni* in having the fulvous markings considerably reduced, the outer band being broken into spots. I have ten specimens from Arizona from Dr. Barnes and Mr. Poling.

M. ursus Poling.

Arizona. Known only in the female.